<b>XX</b> 7	anle	Orden	ID	61104
<b>V</b> V	OI 18	Oruși	W	01104

Friday, August 06, 2010 9:50:10 AM



Page 1

Item ID:

D205-634-041

Accept

Setup Start

Stop

**Revision ID:** 

Item Name: Replacement Skidtube

**Required Date: 8/19/2010** 

**Start Date:** 

8/6/2010

Start Qty: 1.00

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

Approvals:

Sequence ID/

Work Center ID

**Process Plan:** QC:

Operation

**Description** 

Date: 10-8-0 Tooling:

Date: \_\_\_\_\_

SPC (Y/N):

Date:

Date:

Run

Start Stop

Set Up/ **Run Hours**  **Tool ID** 

Tool # Plan Code

Accept Qty Qty

Reject Reject

Insp. Number

M 10-8-06

Stamp

**Draw Nbr Revision Nbr** 

D2580

Rev D

100

DOCUMENT CONTROL

Memo

0.00

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

8 10/08/31

110

CNC Bend 1

CNC Delta 100 Bender

**BENDING MACHINE - SKIDTUBES** 

Memo

0.00

0.00

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

6 ms 10-08-19

Dart Ae	rospace	<b>Ltd</b>							
W/O:			W	ORK ORDER CHANGE	S				
DATE	STEP	PROCEDURE CHANGE				Date	Qty	Appraval Chief Eng / Prod Mgr	Approval QC Inspector
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	R	esolution:	Disposition	on:	QA: N/C CIC	Date: _	<del></del>		
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# Work Order ID 61104

Friday, August 06, 2010 9:50:10 AM



Page 2

Item ID:

D205-634-041

Accept

Accept

**Qty** 

Setup Start

Stop



**Revision ID:** 

Item Name: Replacement Skidtube

**Start Date: Required Date: 8/19/2010** 

8/6/2010

Start Qty: 1.00 Req'd Qty: 1.00



Date:

Cust Item ID:

**Customer:** 

Tool ID

Reference:

Approvals:

Process Plan:

**Operation** 

Description

Date:\_\_\_\_\_

**Tooling:** 

SPC (Y/N):

Set Up/

**Run Hours** 

Date:

Date:

Tool # Plan

Code

Run Start

Reject

Qty

Stop

Reject

Number

Insp.

Stamp

Sequence ID/

Work Center ID

120

Skidtubes

Memo

0.00

0.00

Skidtubes

1- Deburr ends

2- C'sink holes as per dwg without cutting fluid

3- Prepare tube for welding, remove alodine as required.

4- Scribe batch number insied aft end of tube.

130

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

1 — BE 10/08/23



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W/O:			WO	RK ORDER CHANGE	S				<del> </del>		
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	Re	esolution:	Disposition	:	QA: N/C CI	osed:		Date: _			
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# Work Order ID 61104

Friday, August 06, 2010 9:50:10 AM



Page 3

Item ID:

D205-634-041

Accept



Setup Start

Stop



**Revision ID:** 

Item Name:

Replacement Skidtube

**Start Date:** 

8/6/2010

Start Otv: 1.00

Required Date: 8/19/2010

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

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Process Plan: \_\_\_\_\_

QC:

Operation

Description

Date: Date:

Tooling:

Set Up/

**Run Hours** 

SPC (Y/N):

Date:

Tool ID

Date:

Tool # Plan

Code

Run Start

Reject

Otv

Accept

Oty

Stop



Number Stamp

Insp.

Reject

Sequence ID/ **Work Center ID** 

140



Skidtubes Skidtubes

Memo

0.00

0.00

1-Weld step D2576 as per Dwg. D2580 and Q A/R□□□ Aluminum Rod

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI

For D2579 spacers, weld one side, pass 3/8" drill weld other side, pass 3/8" drill

A/R□□□ Aluminum Rod

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64". adjust stopper not to hit web.Deburr

5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Deburr holes

6-Drill pilot holes for aft cap using DT 8215Open holes to 0.208". Deburr

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

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W/O:			WORK ORDER CHANGES .						
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# Work Order ID 61104

Friday, August 06, 2010 9:50:10 AM



Page 4

Item ID:

D205-634-041

Accept



Setup Start

Stop



**Revision ID:** 

Item Name:

Replacement Skidtube

**Start Date:** 

8/6/2010

Start Qty: 1.00

Required Date: 8/19/2010

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

Approvals:
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Process Plan:

Date:

Date:\_\_\_\_\_

Tooling:

SPC (Y/N):

Date:

Date:

Run Start

Stop

Sequence ID/ Work Center ID

150

**Quality Control** 

Operation **Description** 

OC:

QC10- Inspect visual per QSI004- ground welds

Set Up/

**Run Hours** 

Tool ID

Tool # Plan Code

Reject Accept Qty

Reject Insp.

Number Stamp

Memo

0.00

25/30/08/25

160

OC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

iclass 2

Qty

170

HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.



W/O:			W	ORK ORDER	CHANGE	S	-			
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# Work Order ID 61104

Friday, August 06, 2010 9:50:10 AM



Page 5

Item ID:

D205-634-041

Accept

Setup Start



**Revision ID:** 

Item Name:

Replacement Skidtube

**Start Date:** 

8/6/2010

Start Qty: 1.00

Required Date: 8/19/2010

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

**Tool ID** 

Reference:

Approvals:

QC:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Date: Date:

Tool # Plan

Code

Run

Start

Stop

Stop



Sequence ID/ **Work Center ID** 

180

Powdercoat

Powder Coating

Operation Description

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

Set Up/ **Run Hours** 

0.00

Memo START TIME: OVEN TEMPERATURE

FINISH TIME:

0.00

Memo

QC3- Inspect Part Finish

0.00

Accept

Qty

Reject Qty

Reject

Insp. Number Stamp

Quality Control

190

0.00

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W/O:			W	ORK ORDER CHANG	ES				,		
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Work	Ordea	· ID	61104

Friday, August 06, 2010 9:50:10 AM



Page 6

Item ID:

D205-634-041

Accept



Setup Start



**Revision ID:** 

Replacement Skidtube Item Name:

Start Date: .

8/6/2010

Start Qty: 1.00 Required Date: 8/19/2010

Req'd Qty: 1.00



Date:

**Cust Item ID: Customer:** 

Reference:

A	DI	re	ova	als:

Process Plan: QC:

Date:\_

**Tooling:** 

SPC (Y/N):

Date:

Date:

Run

Start

Stop

Stop

Sequence ID/ **Work Center ID** 

200

HandFinish Hand Finishing

Operation Description

Memo

Set Up/ **Run Hours** 

0.00

0.00

**Tool ID** 

Tool # Plan Code

Accept Qty

Reject Qty

Reject

Insp. Number Stamp

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates A/R 000 Sikaflex-291 0115114 000

Sikaflex expire date: 11/01

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per OSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with

Sikaflex. Clean excess adhesive

Sikaflex expire date: 11101

5-Wing Walk as per Dwg D2580 and OSI 005 4.4

Batch: 115028

W/O: WORK ORDER CHANGES										
DATE	STEP	PRO	CEDURE CH	ANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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# Work Order ID 61104

Friday, August 06, 2010 9:50:10 AM



Page 7

Item ID:

D205-634-041

Accept



Setup Start

Stop

Start

Stop



**Revision ID:** 

Item Name:

**Required Date: 8/19/2010** 

Replacement Skidtube

**Start Date:** 

8/6/2010

Start Qty: 1.00

Req'd Oty: 1.00

Operation

Description



**Cust Item ID: Customer:** 

Reference:

An	MMARIA	10.
AU	prova	115.

Process Plan: \_\_\_\_ Date:

QC: Date:

SPC (Y/N):

Set Up/

**Run Hours** 

Tooling:

Tool ID

Date:

Date:

Tool # Plan

Accept Oty Code

Reject Qty

Run

Reject Insp. Number Stamp

210

Sequence ID/

**Work Center ID** 

Quality Control

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for

Foreign objects per OSI 024

QC5- Inspect part completeness to step on W/O

220

Packaging

Packaging

Packaging

Memo

0.00

0.00

Identify and pack for shipping as per PPPD205-634-041

Location: PPP Rev:

230

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

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W/O:			WC	RK ORDER CHANGE	ES				•
DATE	STEP	PRO	OCEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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### **Picklist Print**

Friday, August 06, 2010 9:50:14 AM

Work Order ID: 61104

Parent Item:

D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 8/6/2010

Required Date: 8/19/2010

Page 1

Start Qty: 1.00

Required Qty: 1.00

**Comments:** 

IPP Rev:N□02.08.28□FP was QC5 in Step 27; Added QC5 to Step 30□KJ

IPP Rev P 10.02.19 per PAR09-043 EC verified by:DD

Manufactured

Manufactured

IPP Rev. O 06.02.28 Added paperwork EC

IPP Rev:P 07-07-09 SS Wearplates & Gaskets

JLM

ST046

No

59856

59913

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2580-1  205 Skidtube bent detail		Manufactured	No			110	Each	4.0000	1	1 B. 6 N	بر 90	B 10	-08-
				Location		Loc C	<u>Oty</u>	Loc Code					
				LG			1						
				5	7028		1		·				

D2576-3	

Step (maching detail)

	Locati	<u>on</u>	Loc	: Oty	Loc Code
	LG	-		84	
		46661		36	
		52215		48	
No			140	Each	327.0000

140

2

Each

84.0000

20	20	

Crossbolt Spacer

D2579

<b>Location</b>	Loc Oty	Loc Code
LG	327	
57052	5	
57348	4	
58433	2	
59113	182	
60845	134	

20 de 10/08/23

W/O:			ES									
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
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Part No		PAR #:	Fault Cate	gory:	_ NCR: Yes	No DO	QA:	_ Date: _				
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NCR:		\	WORK ORD	ER NON-CONFORM	ANCE (NC	R)						
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Friday, August 06, 2010 9:50:14 AM

Work Order ID: 61104 Parent Item: D205-634-041 Parent Item Name: Replacement Skidtube Required Date: 8/19/2010 Start Date: 8/6/2010 Start Qty: 1.00 Required Qty: 1.00 D2855 Manufactured No 200 Each 81.0000 10-08-30. Location Loc Qty Loc Code FP6 56613 ST026 80 50513 50770 28 51539 2 53791 49 AN3-5A Purchased No 200 Each 1,542.000 Bolt Location M 10.08.30 Loc Qty Loc Code ST350 1542 105057 542 115016 500 115371 500 NAS1149D0332J Purchased AN960JD10L No 200 Each 2,633.000 2 Washer

Loc Qty

2633

2633

Loc Code

Location

110985

ST348

M 10.08.30

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W/O:			W	ORK ORDER CHAN	GES					•
DATE	STEP	PRC	OCEDURE CH	IANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Ca	tegory:	NCR:	Yes N	lo <b>DQ</b>	A:	_ Date: _	
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Friday, August 06, 2010 9:50:14 AM Work Order ID: 61104 Parent Item: D205-634-041 Parent Item Name: Replacement Skidtube Start Date: 8/6/2010 Required Date: 8/19/2010 Start Qty: 1.00 Required Qty: 1.00 ALS4-1032-130 Purchased ALS7-1032-130 No 200 Each 878.0000 50 50 Insert Location Loc Qty Loc Code FP 861 115079 861 ST282 17 113238 17 AN3C4A No Purchased 200 Each 1,889.000 50 50 **BOLT** Location Loc Qty Loc Code ST350 1889 114108 14 114416 12 114523 2 114941 861 115300 1000 AN960C10L NAS1149C0332 Purchased No 200 Each 29.0000 50 50 washer M 10-08.30 Location Loc Qty Loc Code

BA 115000

29

29

ST245

107534

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W/O:			V	VORK ORDER CHANGE	S				•
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Friday, August 06, 2010 9:50:14 AM									
Work Order ID: 61104									
Parent Item: D205-634-041									
Parent Item Name: Replacement Skidtu	be		***************************************	<b>                                   </b>		Si	tart Date: 8	/6/2010	Required Date: 8/19/2010
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D3566-13	Manufactured	No		200	Each	33.0000		1	,
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D3566-5	Manufactured	No		200	Each	36.0000	1	1	
Gasket		_							
			<u>ation</u>	Loc	c Oty	Loc Code			MC 10= 08-30
		FP	60869		22 22				
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D3566-1	Manufactured	No		200	Each	30.0000	2	2	
Gasket									
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NCR:		1	WORK ORD	ER NON-CONFORM	ANCE (NC	R)			
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DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sigr Dat	ı&∣ <sub>Sec</sub>	tion C	Approval Chief Eng	Approval QC Inspector
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Picklist Print
Friday, August 06, 2010 9:50:14 AM

Work Order ID: 61104									
Parent Item: D205-634-041									
Parent Item Name: Replacement Skio	ltube	11441114			ll.		rt Date: 8/ art Qty: 1.		Required Date: 8/19/2010 Required Qty: 1.00
D3564-11  Wearshoe	Manufactured	No		200	Each	8.0000	1 	1	Required Qty. 1.00
			<u>Location</u> FP019 59941	Loc	8 8	Loc Code			ML 10=08.30
D3564-13	Manufactured	No		200	Each	31.0000		1	
			<u>Location</u> FP17 59660	<u>Loc</u>	31 19	Loc Code			ml 10.08.30
D3564-9	Manufactured	No	60862	200	12 Each	24.0000		1	<del></del>
Wearshoe			<u>Location</u> FP	Loc	Oty 1	Loc Code	•		ML 10.08.30
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W/O:			W	ORK ORDER CH	ANGES					•
DATE	STEP	PRO	OCEDURE CHANGE			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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NCR:		\	WORK OR	DER NON-CONFO	PRMANCE	(NCR	)			
DATE	STEP	Description of NC		<b>Corrective Action</b>	Section B		Verific	cation	Approval	Approval
DATE	SIEP	Section A	Initial Chief Eng	Action Descrip		Sign & Date	Secti	on C	Chief Eng	QC Inspector

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Work Order ID: 61104									
Parent Item: D205-634-041									
Parent Item Name: Replacement Skidtube		I IUBIII IIII	F 11911 BAIRL BELL ISBRIG BISGO 14114 BIGH FIS	411 40111 B1001 IIQ!   P	.11	Sta	rt Date: 8/	6/2010	Required Date: 8/19/2010
						St	art Qty: 1.	00	Required Qty: 1.00
	lanufactured	No		200	Each	27.0000	1	1	
Wearshoe						• •			
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O-Ring, 205 Skidtube							1 1880) 1881		
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Plug, 205 Skidtube			<b>T</b>		•				
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DATE	STEP		PRO	OCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	:								
Part No	:		PAR #:	Fault Category:	NCR: Ye	s No DQ	<b>4</b> :	Date: _	
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	DESIG	横	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
i	CHEC	KED.	APPROVED	DRAWING NO. REV. D
		T		D2580 SHEET 1- OF 3
	DATE	-		TITLE SCALE
	07.0	2.27		205 SKIDTUBE ASSEMBLY NTS
	Α		96.09.16	NEW ISSUE
	В		96.12.02	AS MANUFACTURED
	C		98.08.26	REDRAWN, INCLUDED DEO 9094/9097
	D		07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183



QTY -041	QTY -045	Part Number	Description
Х		D2580-041	SKIDTUBE ASSEMBLY
	Х	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130	INSERT UNI
- 1		or AKS7-1032-130	8.4
		or AKS4-1032-130	
		or AELS-1032-130	
50	50	AN3C4A	BOLT .
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

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WITHOUT NOTICE
WORK ORDER

DIO-5-06

#### **GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH: INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:

SEE NOTES ON PAGE 2 FOR D2580-041 AND

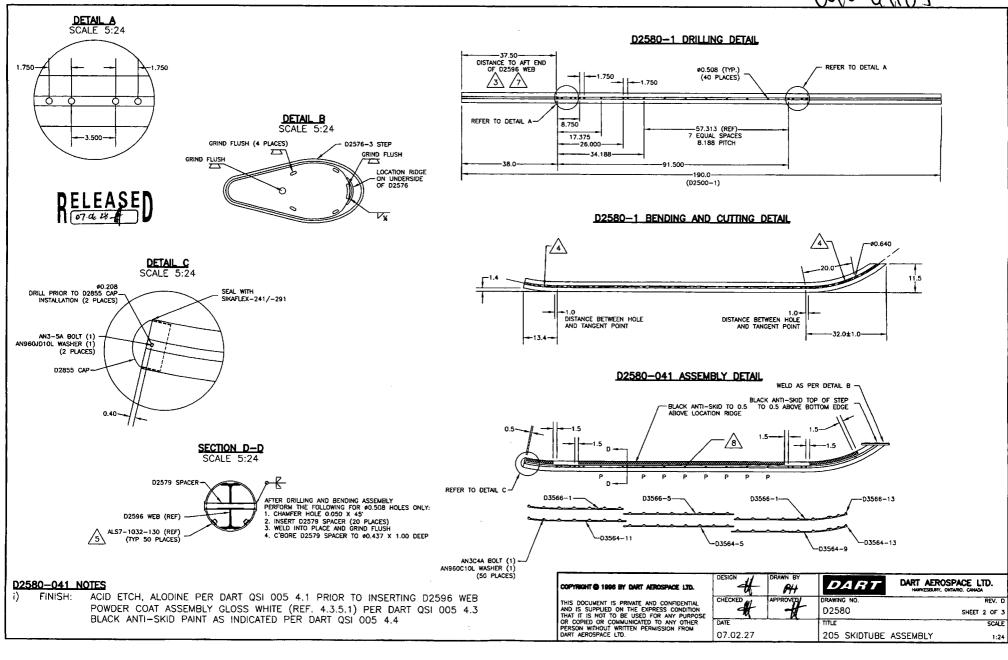
PAGE 3 FOR D2580-045

8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:			WO	RK ORDER CHANG	ES				'
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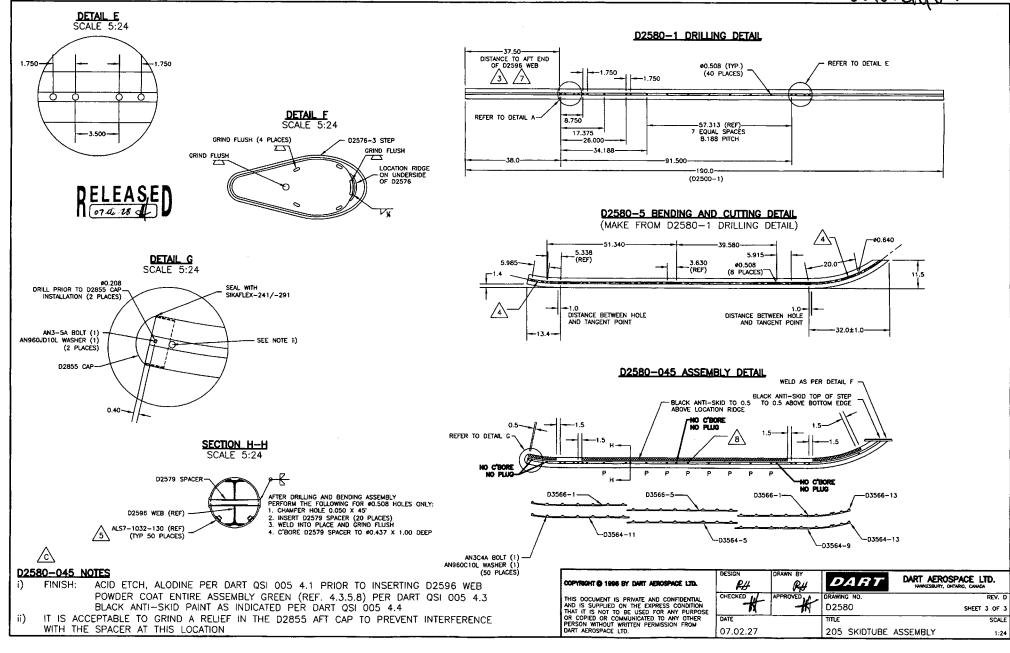
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# AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: Borolan Ellicat	
Job number: 61353	
Part number: 5205-634-041	
Description: 205 Kid tube	
Welding Process: Tig[ \( \forall \) Mig[ ]	
Base materiel: Aluminium	
Current: AC[ DC[ ]	

# TEST REQUIREMENTS AND RESULTS

Visual: Penetration:	pass[] fail[] pass[] fail[]
UNACCEPTABLE	
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[] fail[] pass[] fail[] pass[] fail[] pass[] fail[] pass[] fail[]
Qualifier Society Shot	Date of Test Coupon 10,08.25  Date of Test Coupon 10,09.25

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Work Order ID 61104 Friday, August 06, 2010 9:50:10 AM		79.44 martis Leider Later der der der						= <del>====</del> =:		en e	
Item ID: Revision ID: Item Name: Start Date: Required Date:	D205-634-041  Replacement Skidtube  8/6/2010 Start Qty: 1.00 8/19/2010 Req'd Qty: 1.00		Accept	Cust Item I				Setup	Start Stop		######################################
Reference:	Process Plan:	Date:/0-8-00	· Tooling:	Customer:				Run	Start		
Sequence ID/ Work Center ID		Date:	SPC (Y/N):  Set Up/ Run Hours		Tool #		Accept Qty	Rej Qty		Reject	Insp.
Draw Nbr D2580	Revision Nbr Rev D									Number	Stamp
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CNC Bend 1

BENDING MACHINE - SKIDTUBES

Memo

0.00

CNC Delta 100 Bender

I-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

e 1